

1                   **BEFORE THE POLLUTION CONTROL HEARINGS BOARD**  
2                   **STATE OF WASHINGTON**

3   **KETTLE RANGE CONSERVATION    )**  
4   **GROUP,                            )**

5                   **Appellant,        )**

6                   **v.                    )**

7   **HECLA MINING COMPANY,        )**  
8   **REPUBLIC UNIT; and STATE OF   )**  
9   **WASHINGTON, DEPARTMENT OF   )**  
10   **ECOLOGY;                        )**

11                   **Respondents.    )**  
12   \_\_\_\_\_

**PCHB NO. 94-41**

**FINAL FINDINGS OF FACT,  
CONCLUSIONS OF LAW AND  
ORDER**

12           The Pollution Control Hearings Board ("Board") heard the testimony in this case on  
13   Monday and Tuesday, November 7-8, 1994 in Lacey, Washington

14           Kettle Range Conservation Group ("Kettle Range") appeared pro se through its secretary,  
15   Mike Petersen. Hecla Mining Company, Republic Unit ("Hecla") was represented by attorney  
16   Tad H. Shimazu of Heller, Ehrman, White & McAuliffe. The Department of Ecology  
17   ("Ecology") was represented by Assistant Attorney General, Ron L. Lavigne

18           The Board was comprised of Robert V. Jensen, presiding, Richard C. Kelley and James  
19   A. Tupper, Jr.

20           Lenore Schotz and Kim Otis, court reporters, affiliated with Gene Barker and Associates,  
21   Inc. of Olympia, recorded the proceedings

22  
23  
24  
25  
26   **FINDINGS OF FACT,  
CONCLUSIONS OF LAW AND ORDER**  
27   **PCHB NO. 94-41**

1 Hecla and Ecology entered into an agreed order of dismissal of Hecla's appeal of  
2 Ecology's issuance of the state waste discharge permit, which was signed by the Board on  
3 October 25, 1994. The existing permit will be modified under that order. That order disposed of  
4 PCHB 94-40, which had been consolidated with this case.  
5

6 The Board, at the conclusion of Kettle Range's case, conferred with the parties and by  
7 agreement narrowed the case to issues 9, 11, 12, 15, 16, 19 and 20. These are restated here as  
8 follows  
9

- 10 9) whether Kettle Range is entitled to have approval authority over bonding by Hecla  
in regards to the closure and reclamation of Aspen Pond
- 11 11) whether Ecology should have required testing of sediments and fish of Mud Lake,  
12 Eureka Creek and Granite Creek for heavy metals and other contaminants
- 13 12) whether Ecology should have required additional testing for arsenic in the ground  
14 water, the surface waters of Mud Lake, Eureka Creek and Granite Creek and the  
water supply wells in the vicinity
- 15 15) whether Ecology should have required, pursuant to the Washington Metals  
16 Mining Act, a citizen testing program
- 17 16) whether Ecology should have required complete ground water modeling with  
18 "modflow" and "MT3D" or other pollutant tracker, to ascertain the extent of  
pollution into local aquifers
- 19 19) whether the permit should include ground water standards
- 20 20) whether the permit should require testing of wells beyond one mile, if there is  
21 contamination within one mile  
22

23 Based on its review of the evidence and in consideration of the closing arguments of the  
24 parties, the Board enters these  
25

26 **FINDINGS OF FACT,**  
27 **CONCLUSIONS OF LAW AND ORDER**  
**PCHB NO. 94-41**

1 **FINDINGS OF FACT**

2 **I**

3 Hecla, since 1902, has operated a gold and silver mine near the town of Republic in Ferry  
4 County  
5

6 **II**

7 The ore is removed from underground veins and hauled in 16 ton trucks to the nearby  
8 mill. There, the ore is crushed to 1/2 inch material. A concentrator ball mills the powder so that  
9 80% passes a 200 square per inch mesh screen. From there the material goes to a flotation cell,  
10 in which froth flotation is used to separate the gold and the silver. The material is then leached  
11 with a sodium cyanide solution. Zinc dust is used to precipitate the dissolved gold and silver,  
12 which is then melted and cast into bars. The remains or tailings, in the form of a slurry, are then  
13 pumped up to Aspen Pond. The suspended solids, mainly sand, eventually settle to the bottom  
14 and form sediments. The tailing solution waters are recycled back to the mill and used as process  
15 water  
16  
17

18 **III**

19 Aspen Pond is a 37 acre, unlined tailings storage facility. Its waters seep out through  
20 concrete barriers directly below the impoundment structure. A similar seep emanates from the  
21 old tailing pond, Mud Lake to the southwest. The water from both seeps is collected and  
22 pumped back into Aspen Pond.  
23  
24  
25

26 **FINDINGS OF FACT.**  
27 **CONCLUSIONS OF LAW AND ORDER**  
**PCHB NO. 94-41**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27

IV

Aspen Pond lies to the north of the mill. The terrain generally declines to the south. Eureka Creek, which typically is dry in the summer, lies southeast of the pond and flows south, about two miles before it is joined by Granite Creek. Aspen Pond was raised five feet last summer in order to give it another four to eight years of life.

V

Historically, the area was a hot springs like Yellowstone. A natural concentration of metals concentrated along the fractures of volcanic rock, approximately 45,000,000 years ago. Less than one hundred feet upslope and northwest of Mud Lake lies the "Golden Eagle," containing 11,000,000 tons of mineralized material. Although it contains gold and silver, it is completely buried by gravel and is not feasible for mining. Directly to the west of this deposit, lies an abandoned mine, named the "Mountain Lion." This mine was abandoned in the 1930's or 40's. Aspen Pond is several hundred feet higher than Mud Lake, but lies closer than the Golden Eagle or Mountain Lion mine, to Mud Lake. Golden Eagle is two to three times as large as Aspen Pond. A certain amount of material has already eroded off of Golden Eagle. Because of the abundance of metals in the soils of the site, it would be extremely difficult, to determine whether the source of these metals into Mud Lake is due to seepage from Aspen Pond. It is more likely, given the fact that the metals are already extracted before they get to Aspen Pond, that Golden Eagle is the source of these metals.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27

## VI

In 1988 and 1989, high levels of cyanide were documented in the ground water near the mine. Hecla determined that the mill operators were using more cyanide than necessary. Cyanide use has since been reduced to 30 percent of the levels used in 1988.

## VII

Prior to 1922, Hecla disposed of coarse tailings in old mine shafts. That practice has been discontinued.

## VIII

There are two vertical mine shafts, one is 1200 feet deep, the other, Knob Hill, is 1800 feet in depth. The two shafts are connected at one level. Tunnels extend horizontally for hundreds of feet, at the end of the shafts.

## IX

Hecla plans to close the mine in December of this year. The mill will continue to operate for two to three weeks. Once the mill is closed, by the end of February, Hecla intends to stop placing tailings in Aspen Pond. Hecla will then dewater the mine by pumping the mine water to Aspen Pond. It will do so to allow it to continue exploring for more mineral deposits. If no new source is found within six months, Hecla intends to abandon the mine. Hecla intends to submit a draft plan for the closure of the pond to Ecology by December 1994. The final plan is due in February 1995. Water evaporation from the pond will begin in the summer of 1995. The pond will be covered according to the closure plan.

1 X

2 Ecology, on February 22, 1994 issued a state waste discharge permit to Hecla

3 XI

4 The state waste discharge permit does not authorize any discharge to groundwater

5 XII

6 No evidence was produced that there are fish in Mud Lake or Eureka Creek Ecology did  
7 not require testing of fish in these bodies, or in Granite Creek because the permit only authorizes  
8 discharges to Aspen Pond, which has no fish  
9

10 XIII

11 Kettle Range appealed Ecology's permit decision to this Board, on March 23, 1994

12 XIV

13 The permit originally contained detailed closure and reclamation requirements for the  
14 Aspen tailings pond Condition S6 F. provided that Hecla would furnish to Ecology a surety  
15 bond to secure performance of all the conditions of the reclamation plan The bond was to be  
16 made to the satisfaction of Ecology  
17

18 XV

19 Ecology and Hecla in their settlement, agreed to remove condition S6 In lieu of this  
20 provision, they agreed to amend condition S4 to require Hecla to obtain financial assurance,  
21 approved by Ecology, for the closure of Aspen Pond  
22  
23  
24  
25

1 **XVI**

2 The waste discharge permit establishes an extensive monitoring program requiring Hecla  
3 to monitor the water quality of Aspen Pond, the seepage returns, the mine drainage, a number of  
4 ground water monitoring wells and other supply wells within a one mile radius of the pond, and  
5 surface water sites on Eureka and Granite Creeks and Mud Lake. The permit does not require  
6 Hecla to monitor any sediments.

8 **XVII**

9 Kettle Range has not requested Ecology to make arrangements for citizen observation and  
10 verification in the taking of water samples associated with the mine.

12 **XVIII**

13 Ecology requires monitoring of arsenic in the surface waters of Mud Lake, Eureka and  
14 Granite Creeks, and the monitoring wells specified in the permit, but does not require that arsenic  
15 measurements be taken in the mine water, or in the supply wells within one mile of Aspen Pond.  
16 The reason testified to for this discrepancy was that Ecology's ground water standards, which are  
17 based on the drinking water standards, do not include arsenic as a parameter. The discharge  
18 permit contains a clause allowing Ecology to modify the permit for good cause.

20 **XIX**

21 Modeling for water quality violations is at best hypothetical in nature. We find that the  
22 extensive water monitoring required by Ecology, with the addition of across-the-board arsenic  
23

1 testing, will yield more accurate results than modeling using "modflow," "MT3D," or any other  
2 pollutant tracker

3 **XX**

4 Any conclusion of law deemed to be a finding of fact is hereby adopted as such From  
5 these findings of fact, the Board makes the following

6 **CONCLUSIONS OF LAW**

7 **I**

8 The Board has jurisdiction over this matter under RCW 90 48 020 and RCW  
9 43 21B 110(1)(c)

10 **II**

11 Kettle Range, the appellant, bears the initial burden of proof WAC 371-08-183(3)

12 **III**

13 Kettle Range has failed to provide any authority for the proposition that Ecology may sub-  
14 delegate to it, Ecology's authority to approve or disapprove the bonding requirements for closure  
15 of Aspen Pond We therefore reject this contention

16 **IV**

17 We are persuaded by the evidence that Ecology's expansive monitoring and testing  
18 requirements of the water quality of the area are consistent with the laws governing water quality  
19 Kettle Range has simply not proven that further testing, including the testing of fish and  
20 sediments, and the testing of wells beyond one mile from Aspen Pond, will provide any pertinent

21 **FINDINGS OF FACT,**  
22 **CONCLUSIONS OF LAW AND ORDER**  
23 **PCHB NO. 94-41**



1 data relevant to Hecla's compliance with the water quality laws. The evidence is that sediment  
2 testing will probably not reveal the source of the contaminants, because of the mineral rich soils in  
3 the area. There was no evidence of any fish life likely to be adversely affected by Hecla's  
4 discharge into Aspen Pond. Modeling will not provide the degree of precision that is sure to  
5 result from the multitudinous monitoring of various sites around the pond.  
6

#### 7 V

8 Kettle Range argued at the hearing that Ecology should require water quality monitoring  
9 of aluminum. However, this was not included in the issues for the hearing. Those issues, which  
10 were set forth in the Pre-Hearing Order, govern the course of this proceeding, unless that order is  
11 modified for good cause. WAC 371-08-140. Kettle Range failed to establish good cause for  
12 adding this issue, therefore, it was not considered by the Board in its final decision.  
13

#### 14 VI

15 We are persuaded, however, that Ecology has misread its own ground water quality  
16 standards, in regard to arsenic. WAC 173-200-040 Table I, labels arsenic as a carcinogen, and  
17 sets a water quality limit for it as follows: "II CARCINOGENS Arsenic\* 0.05 (ug/l)". We  
18 agree with Ecology, that the state waste discharge permit does not authorize any discharge into  
19 the ground water. We moreover agree that Ecology is not required to include ground water  
20 standards in the permit. However, insofar as it has applied the ground water standards to  
21 measurement of contaminants in ground water sites in the area, we believe that consistent  
22 application of the criteria would provide good cause for Ecology, if it so chooses, to reopen  
23  
24  
25

1 condition S2 of the permit, when the permit is modified pursuant to Ecology's stipulated  
2 agreement with Hecla under section G10, and WAC 173-216-130(2)

3  
4 **VII**

5 Ecology is not required by law to include a citizen testing program as part of this permit  
6 However, under the Washington Metals Mining and Milling Operations Act, at RCW  
7 78 56 100(1)(c), Ecology shall, if requested, make arrangements for citizen observation and  
8 verification of water sampling activities The Board does not have any jurisdiction over that issue  
9 in this case Therefore, it declines to make any ruling as to how Ecology should proceed under  
10 RCW 78 56 100(1)(c)

11  
12 **VIII**

13 Any finding of fact deemed to be a conclusion of law is hereby adopted as such From the  
14 foregoing, the Board issues this

15 **ORDER**


16 Ecology's issuance of state waste discharge permit No 5270, to Hecla, as modified by the  
17 agreed order between Hecla and Ecology, signed by the Board on October 25, 1994, is affirmed

18  
19 DONE this 23<sup>rd</sup> day of November, 1994

POLLUTION CONTROL HEARINGS BOARD

  
ROBERT V. JENSEN, Chairman

  
RICHARD C. KELLEY, Member

  
JAMES A. TUPPER, JR., Member

P94-41F

FINDINGS OF FACT,  
CONCLUSIONS OF LAW AND ORDER  
PCHB NO. 94-41